

**REMARKS****Amendments to the Claims**

Independent Claim 1 has been amended to delete "nickel (Ni) and nickel oxide (NiO)" and "iron oxides ( $\text{Fe}_x\text{O}_y$ )" from the list of mixed metal oxides.

To be consistent with the amendment to Claim 1, Claim 8 has been amended to delete "nickel (Ni) and nickel oxide (NiO)" and "FeO and  $\text{Fe}_2\text{O}_3$ " from the list of mixed metal oxides.

Claim 18 has been rewritten into an independent claim.

New Claims 25 and 26, dependent from independent Claims 9 and 17, respectively, have been added. These claims recite the mixed metal oxides recited in independent Claim 1.

**Rejection of Claims 1-4 and 8 under 35 U.S.C. § 102(e)**

Claims 1-4 and 8 have been rejected under 35 U.S.C. § 102(e) over U.S. 2004/0076575 to Alvarez, Jr. *et al.* (hereinafter "Alvarez").

***A. With Respect to Claims 1, 4 and 8***

As amended, the method of independent Claim 1 employs at least one metal oxide that includes iron (Fe) and manganese oxide ( $\text{MnO}_x$ ); nickel oxide (NiO) and titanium oxide ( $\text{TiO}_x$ ); palladium oxide ( $\text{PdO}_x$ ) and cerium oxide ( $\text{CeO}_x$ ); or vanadium oxides ( $\text{VO}_x$ ). Claims 4 and 8 depend from independent Claim 1.

The subject matter of Claims 1, 4 and 8 is fully supported by the priority document of the present application, 60/419,390 which was filed on October 17, 2002 (a copy of which is enclosed herewith as Exhibit A). For example, support for the use of iron (Fe) and manganese oxide ( $\text{MnO}_x$ ) can be found in paragraphs [0013], [0015] – [0016] of Example 1 of the priority document. Support for the use of nickel oxide (NiO) and titanium oxide ( $\text{TiO}_x$ ); or palladium oxide ( $\text{PdO}_x$ ) and cerium oxide ( $\text{CeO}_x$ ), can be found in paragraphs [0017] – [0021] of Example 2 of the priority document. Support for the use of vanadium oxides ( $\text{VO}_x$ ) can be found in paragraphs [0022] – [0024] of Example 3 of the priority document. Support for reduction of contaminants to a level less than 1 ppb can be found in paragraph [0009] of the priority document. As such, Claims 1, 4 and 8 have the effective priority date of October 17, 2002.

Alvarez was filed on October 17, 2002. Therefore, Alvarez does not qualify as prior art against Claims 1, 4 and 8, thus obviating the rejection of Claims 1, 4 and 8.

*B. With Respect to Claims 2 and 3*

Claims 2 and 3 depend from independent Claim 1. Hence, the methods of Claims 2 and 3 employ at least one metal oxide recited in Claim 1. Claims 2 and 3 further recite that the contaminant content is reduced to not more than 100 ppb and not more than 10 ppb, respectively.

It is noted that the present application was filed on October 16, 2003. Alvarez was filed on October 17, 2002 and published on April 22, 2004. It is also noted that the subject matter of Alvarez and Applicants' claimed invention of the present application were co-owned, at the time Applicants' claimed invention was made, by the same assignee, *i.e.*, Aeronex, which was later acquired by Mykrolis Corporation, as evidenced by the assignment records of the Assignment Division of the United States Patent and Trademark Office (a copy of the records is enclosed herewith as Exhibit B) and by the executed Assignment for the priority document, 60/419,390 (a copy of which is enclosed herewith as Exhibit C). Thus, Alvarez may qualify as prior art against the present application only under 35 U.S.C. § 102(e) with respect to novelty of Claims 2 and 3, but not with respect to obviousness of Claims 2 and 3 under 35 U.S.C. § 103(c).

Alvarez discloses the use of metal oxides of Groups 7-12 of the Periodic Table, such as iron oxides, or commercial mixed iron/manganese oxides for decontaminating fluid carbon dioxide. However, there is no disclosure or suggestion of the use of the mixed metal oxides recited in Claim 1. Further, there is no disclosure or suggestion that the use of the mixed metal oxides recited in Claim 1 can reduce the contaminant content to the levels recited in Claims 2 and 3. Thus, the subject matter of Claims 2 and 3 is novel over Alvarez. As such, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of Claims 2 and 3.

Allowed and Allowable Subject Matters

The Examiner allowed Claims 9-17 and 19-24. The Examiner also stated that Claim 18 would be allowable if rewritten in independent form including all of the limitations of its base claim and any intervening claims.

As discussed above, Claim 18 has been re-written into an independent claim reciting all of the claim elements of its base Claim 1.


New Claims 25 and 26 depend from independent Claims 9 and 17, both of which are allowed. Thus, the subject matter of new Claims 25 and 26 is allowable.

### CONCLUSION

In view of the above amendments and remarks, it is believed that all pending claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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